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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,192	03/06/2001	Ramin Khoini-Poorfard	11	3401

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90 Forest Avenue
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EXAMINER

HA, DAC V

ART UNIT	PAPER NUMBER
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2634

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DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/800,192

Applicant(s)

KHOINI-POORFARD, RAMIN

Examiner

Dac V. Ha

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2001.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-7 and 11-23 is/are rejected.
7) ☒ Claim(s) 8-10 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1-12, 16, 20-23 are objected to because of the following informalities:

In claim 1, the parameter "m" should be clearly defined (i.e., integer).

In claim 3, "GMSK" is referred to "Gaussian-filtered mean shift keying" while in claim 23, "GMSK" is referred to as "Gaussian mean shift keying". It is suggested that the use of term GMSK to be consistent.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5, 7, 13-17, 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hook et al. (US 6,473,506) (hereinafter Hook) in view of Nikula et al. (US 6,690,751) (hereinafter Nikula).

Regarding claim 1, Hook teaches the claimed subject matter as follows.

"an m-level ... an output" (Figure 3A, element 302; Col. 6, lines 27-30; Col. 3, lines 48-52);

"a phase rotator ... second mode of operation" (Figure 3A, element 305, and Rotation 1- Rotation R; Col. 3, lines 6-12, 22-29; Col. 6, lines 30-33; Col. 7, lines 36-51);

"a pulse shaping filter ... rotator" (Figure 3A; Col. 6, line 34).

Hook differs from the claimed invention in that Hook doesn't teach the claimed subject matter "a controller ... operation". However, Hook teaches the phase rotator operates in a manner that it can automatically select a phase rotating factor corresponding to the selected modulation scheme (Col. 6, lines 30-33). The intention is now directed to Nikula. In the same field of endeavor, Nikula teaches a "controller" for controlling the operation of the phase rotator (Figure 1, element 104; Col. 1, lines 43-46). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate a "controller" as taught by Nikula into Hook for controlling, in particular, the operation of the phase rotator as an alternative.

Regarding claim 13, similarly to claim 1 above, wherein combination of elements 302 and 304 of Figure 3A teaches both "a first modulator" and "a second modulator". That is to say, the modulation means 302 could have included a plurality of modulator for modulating the signal using different modulation schemes or it could have operated as a modulation block using different modulation schemes under control of the selecting means as shown and which could be a better option (i.e., reducing circuit size). Further, element 305 teaches the claimed subject matter "at least on sub-circuit".

Regarding claim 20, see also claim 1 above and further in Col. 5, lines 23-46.

Regarding claim 2, Hook further teaches the claimed subject matter "wherein m is equal to eight" in Col. 5, lines 28, 44; Col. 9, lines 43-44.

Regarding claim 3, Nikula further teaches the claimed subject matter "wherein ... evolution)" in Col. 1, lines 21-30.

Regarding claim 5, Hook further teaches memory is contained in the modulator for its natural application. Thus, the claimed subject matter "further ... serial data stream" would have been obvious to one skilled in the art to accommodate different data to be modulated.

Regarding claim 7, the claimed subject matter "wherein ... data stream" would have been optional to one skilled in the art.

Regarding claim 14, Nikula further teaches the claimed subject matter "wherein ... operation" in Figure 1, element 103".

Regarding claim 16, as indicated in claim 13 above, Hook teaches the claimed subject matter "wherein ... operation" in that the combination of modulation means 302 and selection means 304 capable of selecting appropriate modulation responsive to "controller" (as optional).

Regarding claims 17, 21, see claim 2 above.

Regarding claims 19, 23, see claim 3 above.

Regarding claim 22, see claim 5 above.

4. **Claims 4, 6, 11, 12, 15, 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hook and Nikula as applied to claim 1 above, and further in view of Fischer et al. (US 6,687,507) (hereinafter Fischer).

Regarding claim 4, the combination of Hook and Nikula teaches all the claimed subject matter in claim 4, as stated above, except for the claimed subject matter "wherein ... response". Fischer, in the same environment, teaches the claimed subject matter "wherein ... response" in Col. 4, lines 41-48. Therefore, the claimed subject

matter "wherein ... response" would have been obvious to one skilled in the art based on the aforementioned combination in view of Fischer.

Regarding claim 6, the combination of Hook and Nikula teaches all the claimed subject matter in claim 4, as stated above, except for the claimed subject matter "wherein ... into triplets". The aforementioned combination utilizes burst for signal transmission. Fischer further teaches the signal to be transmitted is organized into burst and modulated using a selected modulation scheme therefrom (Figure 5, element 510). Therefore, the claimed subject matter "wherein ... into triplets" would have been obvious to a person of ordinary skill in the art as optional.

Regarding claims 11, 12, similar analogy in claim 4 above, the claimed subject matter "wherein ... (PAM)" or "wherein ... Gaussian response" would have been optional to one skilled in the art in view of Fischer.

Regarding claim 15, the combination of Hook and Nikula teaches all the claimed subject matter in claim 4, as stated above, except for the claimed subject matter "wherein ... radian". Hook shows a particular rotation factor assigned to each type of modulation scheme used only as an example (Col. 7, lines 36-51). One skilled in the art would have understood that other factor could have been utilized. In particular, Fischer teaches the claimed subject matter "wherein ... radian" in Col. 4, lines 20-24, 39-40. Therefore, the claimed subject matter "wherein ... radian" would have been optional to one skilled in the art.

Regarding claim 18, see claim 4 above.

Allowable Subject Matter

5. Claims 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The present invention relates to a method and apparatus for selectively modulate the signal to be transmitted using different modulation type. In particular, GMSK and m-PSK modulation schemes. A phase rotator is utilized to rotate the modulation signal a predetermined value corresponding to the selected modulation used. Prior art of record, closest reference (Fischer, US 6,687,507), suggests that the phase rotation factor is a multiple of $\pi/2$ and $3\pi/8$, however, Fischer, taking individually or collectively, fails to fairly teach or to provide any motivation for facilitate a particular structure of the phase rotator to accomplish such function as claimed in claim 8 (claims 9-10 depend therefrom). Therefore, claims 8-10 are found to be novel and unobvious over prior art of record.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

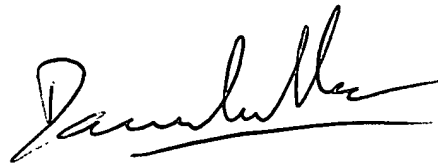
Khullar et al. (US 6,400,928) disclose Method And System For Blind Detection Of Modulation.

Hakaste et al. (US 6,377,817) disclose Asymmetric Data Transmission For Use In A Multi-Modulation Environment.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 703-306-5536. The examiner can normally be reached on 5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Dac V. Ha', with a horizontal line underneath.

Dac V. Ha
Examiner
Art Unit 2634